

# 植物研究雜誌

## THE JOURNAL OF JAPANESE BOTANY

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### Species generis *Euphorbiae* Imperii Japonici (III)

auctore

I. HURUSAWA

古澤潔夫：日本産たかとうだい屬ノ分類（其三）

10) ***Euphorbia Sieboldiana*** MORREN et DECAISNE in Bull. Acad. Brux. III, 174. (1836); BOISSIER in DC. l. c. 158. (1862); Icon. Euphorb. t. 104. (1866); MIQUEL in Ann. Mus. Bot. Lugd.-Bat. III, 126. (1867); FRANCH. et SAVAT., Enum. Pl. Jap. I, 422. (1875); KOMAROV in Act. Hort. Petrop. XXII, 692. (1903); HAYATA in Journ. Coll. Sci. Tokyo XX-3, 71. et Tab. VI, B. (1904); MAKINO in IINUMA, Somoku-Dzusetu rev. ed. II, 698-699. pl. 553-554. (1910); NAKAI in Journ. Coll. Sci. Tokyo XXXI, 185. (1911); MATSUMURA, Ind. Pl. Jap. II-2, 304. (1912); MORI, Enum. Pl. Corea 234. (1921); YAMATUTA, List Mansh. Pl. 179. (1930).

*Euphorbia coralloides* (non LINN.) THUNBERG, Fl. Jap. 197. (1784)? specimen nullum adest!<sup>1)</sup>

*Euphorbia Helioscopia* (non LINN.) A. GRAY in Narrat. C. Perry's Exped. II. append. 318. (1857).<sup>2)</sup>

*Euphorbia Guilielmi* A. GRAY in Mem. Amer. Acad. ser. 2. VI, pt. IX, Bot. Jap. 406. (1859), planta in Yokohama a William & Morrow lecta est pars caulis superior, et in Shimoda et Hakodate lectae sunt duae fructiferae.<sup>3)</sup>

*Euphorbia japonica* (non BOISSIER) SIEBOLD (ex herb. pro maxim. parte sic) ex MIQUEL l. c. 126. (1867) pro syn.

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1, 2, 3): Fide Prof. T. NAKAI, qui omnia specimina Thunbergiana et Grayana ipse observavit.

*Euphorbia hippocrepica* HEMSLEY in Journ. Linn. Soc. XXVI, 414. (1894), de plantis in China, prov. Hupeh: ex diagn. epitom.: "caulibus haud lignescens etc...., folia membranacea, anguste obovato-oblonga vel spatulata apice obtusissima vel rotundata deorsum valde attenuata subtus vix pallidiora, venis omnibus obscuris. Umbella composita etc...., radiis circ. 5, folia umbellarum ovato-oblonga, etc...., floralia libera etc. Involucrum intus glabrum; lobi brevi denticulato-ciliati; glandularum cornibus carnis hippocrepiformibus arcuato reflexis. Capsula immatura laevis glabra." Characteribus hic descriptis exacte cum *E. Sieboldiana* var. *typica* m. convenit.

*Euphorbia Taqueti* LÉVEILLÉ et VANIOT in FEDDE, Repert. Nov. Sp. V, 281. (1907), planta ex ins. Quelpaert.

*Euphorbia Savaryi* KISS. ex KOMAROV et KLOBUKOVA-ALISOVA, Key far east. reg. Ussur. II, 711. (1932): diagnosis in clave "appendices glandularum elongatae, subulatae, folia floralia viridia cordatotriangularia, capsula laevissima." (original in Russian.)

*Euphorbia Tsukamotoi* HONDA in Bot. Mag. Tokyo XLVII, 407. (1934), ut videtur planta minor forsitan montana.

*Galarhoeus Sieboldianus* HARA in Journ. Jap. Bot. XI-5, 388. (1935); in Bot. Mag. Tokyo XLIX, 558. (1935) var. *montanus* (TATEWAKI) HARA; KITAGAWA in Bull. Inst. Sci. Res. Manch. I, No. 3, 4. (1937) cum var. *montano*; HONDA, Nomina Pl. Jap. 102. (1939).

#### *Clavis varietatum et formarum*

- A) Planta oligoclada; saepe caulis solitarius. Lobi involucri margine fimbriati, bracteolis intra involucrum filiformibus apice minute piliferis....var. *typica*.
  - a) Folia latiora spatulata vel oblonga; umbellaria saepe rhombo-elliptica. ....var. *typica* form. *sylvatica*.
  - b) Folia angustiora longiora; umbellaria etiam elongata. ....var. *typica* form. *idsuensis*.
- B) Planta pluricaulis, caulibus caespitosis. Lobi involucri margine glaberrimi. Folia acutiuscula saepius acuta (praesertim in floralia).....var. *montana*.
  - a) Planta minor vulgo 15-20 cm. alta. Involucrum intus ebracteolatum, cornibus glandularum non valde elongatis.....var. *montana* form. *yezoensis*.
  - b) Planta adulta vulgo 30 cm. vel altior quam forma praecedens robustior. Intra involucrum bracteolae minutae glabrae inter flores masc. dispositae, cornibus glandularum longioribus.....var. *montana* form. *peninsularis*.

var. **typica** m. nom. nov.

*Euphorbia Sieboldiana* MORR. et DECNE. l. c. et alior.

Nom. Jap. *Natu-tōdai*.

Hab. in Honsyu, prov. Uzen.; prov. Ugo.; prov. Musasi.; prov. Sagami.; prov. Idu. (form. *idzuensis*.); prov. Sinano.; prov. Ise.; prov. Kii.; prov. Nagato.; prov. Bittyū. Kyusyu, prov. Ōsumi. (ex Sikoku haec varietas nondum certum.)

f. **sylvatica** m. f. nov.

Planta sylvatica, caule paulum carnoso, foliis molliter membranaceis saepe majoribus (an forma grandifolia Franchet l. c. ?), cornibus involucri glandularum longissimis filiformibus.

Nom. Jap. *Ōba-kandui*.

Hab. in Honsyu, prov. Musasi, Asakawa. (ipse); praeterea hinc inde occurrit.

f. **idzuensis** m. f. nov.

Folia caulina simul umbellaria anguste elongata lineari-oblonga. Rhizomata horizontali longissime repentia, caulibus haud caespitosis. Partes florales a form. *sylvatica* non diversae.

Dubito ad *E. Sieboldianam* β. *angustifoliam* MIQUEL in Ann. Mus. Bot. Lugd.-Bat. l. c. apta est an?

*Euphorbia idzuensis* NAKAI mss. et herb. (specimen ex prov. Idu, Simoda. Mart. 1922.)

Hab. in Honsyu, prov. Idu, Simoda. (T. NAKAI, Mart. 1922); ins. Osima. (G. KOIDZUMI, Mart. 18. 1912.)

var. **montana** TATEWAKI in Research. Bull. Exper. Fores. Hokkaido Imp. Univ. 193. (1932.)

*Galarhoeus Sieboldianus* HARA var. *montanus* HARA l. c. 389. (1935) et in Bot. Mag. Tokyo XLIX, no. 558. 865. (1935); KITAGAWA in Bull. Inst. Sci. Res. Manch. I, No. 3, 5. (1937); HONDA, Nomina Pl. Jap. 192. (1939).

f. **yezoensis** m. f. nov.

Planta minor saepe humilior, caulibus caespitosis gracilioribus, foliis etiam minoribus. Involuera intus tota glaberrima, lobis margine haud fimbriatis ut in var. *typica*, bracteolis inter flores masculinos toto destitutis.

Nom. Jap. *Hime-natutōdai*.

Hab. in Hokkaido, prov. Isikari, Sapporo. (K. MIYAKE, Jun. 7. 1891.): in monte Yūbari. (G. KOIDZUMI, Aug. 1916.): ibidem, in monte Misumiyama. (H. HARA, Jul. 25. 1933.); prov. Hidaka, in monte Apoi, Hokuryō. (H. HARA, Jul. 14. 1933.)

f. **peninsularis** n. f. nov.

Lobi involucri ut f. yezoensis margine non fimbriati sed glaberrimi. Planta autem quam ea elatiora robustiora. Folia praesertim in floralis acutiuscula saepius acuta.

Hab. in Corea, prov. Zen-hoku, in monte Hakuyōsan. (T. NAKAI, Mai. 1913.); prov. Kōkai-dō, Tyōzansin. (T. NAKAI, Jul. 28. 1929.); prov. Keinan, in monte Tiisan. (T. NAKAI, Jul. 4. 1913.); ins. Quelpaert. (TAQUET, no. 6213. Jun. 1912.): ibidem, in monte Hallaisan. (T. NAKAI, Mai. 17. 1913.) Manshuria, prov. Fengtien, in monte Feng-huang-shan. (O. YAMATUTA, Apr. 3. 1929.): ibidem. (M. KITAGAWA, Mai. 1. 1932.); Kao-ling. (T. MORI, Jul. 7. 1912.): ibidem. (T. NAKAI, Apr. 27. 1913.): Tsao-ho-kou. (J. SATO, Mai. 30. 1926.)

11) **Euphorbia virgata** WALDSTEIN et KITABEL in DESFONTAINES, Tableau 204. (1804), originem ducet ab *Euphorbia mauritanica* L. sensu LAMARCK, Encyc. Meth. Bot. II, 418. (1785); WALDST. et KIT., Deser. et Icon. Pl. Rar. Hungar. I, 176. et t. 162. (1805); LINK, Enum. Pl. Berol. II, 14. n. 141. (1822); ROEPER, Enum. Euph. Germ. Pann. 64. (1824) cum var. b. (= *E. Uralensis*.); SPRENGEL, Syst. Veg. III, 801. (1826); C. A. MEYER in LEDEBOUR, Fl. Altaic. IV, 181. (1833) cum var. *uralensi*.; LEDEBOUR, Fl. Ross. III, fasc. X, 575. (1850) cum var. *uralensi*.; BOISSIER in DC. I. c. 160. (1862) cum varietatibus pluribus.; Fl. Orient. IV. 1126. (1879); MAXIM. in Mém. Biol. XI, 839. (1883) cum var. *orientali*.

*Euphorbia mauritanica* (non LINN.) LAMARCK, Encyc. Meth. Bot. II, 418. (1785).

*Esula virgata* HAWORTH, Syn. Pl. Suce. 155. (1812).

*Euphorbia Uralensis* FISCHER ex LINK, Enum. Pl. Berol. II, 14. n. 136. (1822).

*E. Esula* (non LINN.) HEYNE (Getr. Darst. II, t. 21.) ex ROEPER l. c. 64. (1824) sub syn.

*E. diversifolia* LANG ex ROEPER l. c.

*E. opaca* LANG mss. ex REICHENBACH, Fl. Germ. Excurs. III, 762. (1832).

*E. obscura* (non LOISELEUR) LANG (Pl. Hung.) ex REICH. l. c.

*E. Gmelini* STEUDEL, Nomencl. Bot. ed. 2. I, 612. (1840), originem ducet ab *Euphorbia* (*Tithymalus*) Nr. 9. foliis ad caulem oblonge ellipticis, sub floribus binis cordatis, umbella multiplici etc. GMELIN, Fl. Sibir. II, 236. et Tab. 97. (1749).

*E. Persica* (non C. A. MEYER) STEV. (Pl. Exs.) ex BOISSIER in DC. l. c. (1862).

var. **orientalis** BOISSIER in DC. l. c. (1862): ramosior, foliis elongatis etc. ex BOISS.

*Galarhoeus virgatus* var. *orientalis* m. nom. alternat. mss.

Descrip. addend.: caule circ. 50 cm. alto glabro e basi ad superiorem densius foliato, foliis infimis brevioribus sursum lineari-lanceolatis apice acutis integris utrinque glaberrimis firmulis; umbellaribus valde abbreviatis ovatis vel breve oblongis apice subacuminatis simul evidenter mucronatis; floralibus rhombeis longitudine latioribus apice mucronatis utrinque obtuse angulatis.

Involucra hemisphaerica fere sessilia, glandulis longius bicorniculatis apicibus inter se accedentibus, lobis apice abrupte truncate margine fimbriatis, extus glabris intus sub glandulis sparse pilosis, bracteolis inter flores masculinos linearibus simplicibus vel multifidis, eius lobulis apice paulum piliferis.

Capsula sub lente minute et densius tuberculata (in immatura), sed perfecte matura obsolete rugosa, 3-sulcato-subglobosa. Styli elongati basi  $1/3$  coaliti apice alte circ.  $1/4$  bifidi, stigmatibus leviter crassatis. Semina laevisima ovoidea; caruncula adpresse sellaeformis vix apiculata.

Hab. in Manshuria, prov. Fengtien, prope Fengtien, Hu-shih-tai. (O. YAMATUTA, Jul. 10. 1927.): ibidem, Wen-kwan-tun. (M. KITAGAWA, Jun. 7. 1932.)

Planta introducta esse dicitur, sed dubio.

var. **Kitagawae** m. var. nov.

*Galarhoeus virgatus* var. *Kitagawae* m. nom. alternat. mss.

Planta rite perennis, caule rigidulo 20-25 cm. alto paucè patulo-foliato ramulos steriles foliosos simul floriferos nonnullos surgente, foliis caulinis lanceolato-oblongis apice acutiusculis basi obtusis sessilibus deorsum sensim minoribus usque inferne in squamas transeuntibus, caule infimo paulatim rhizomatoso plus minus durescente.

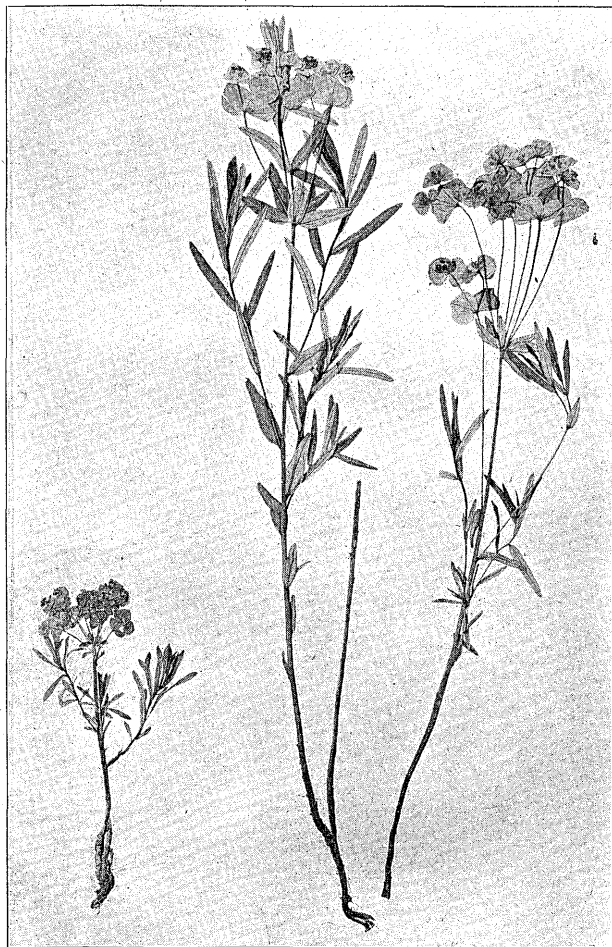


Fig. 8. *E. virgata* WALDSTEIN et KITAIHEL var. *Kitagawae* HURUSAWA.  
Specim. ex monte Bokutoru-san, Liaoyuan, prov. Fengtien, Manshuria.  
( $\times 1/3$ )

Umbella 5-radiata, radiis semel (an porro iterum) bifidis. Folia umbellaria fere uti caulina vel vix breviora et basi obtusiora; floralia reniformi-subcordata vel subtriangulari-ovata apice mucronulata: folia omnia integra glaberrima plus minus firmula (nec coriacea) flavescentia (praesertim in floralia).

Involuera hemisphaerica extus glaberrima intus sub glandulis pilosella, glandulis longiore bicorniculatis fere ut in var. *orientali*, lobis breve ovatis apice rotundato-subretusis margine toto dense pilosis. Capsula 3-sulcato-globosa, immatura coccis dorso densissime asperato-tuberculosis glabris. Styli fere ut in var. *orientali*, apice profunde bifidi.

Hab. in Manshuria, prov. Fengtien, Liaoyan, in monte Bokutoru-shan. (M. KITAGAWA, Maj. 31. 1932. Typus!)

A varietate affine *E. virgata* var. *orientali*, statura humilior, radiis umbellae paucioribus (forsan principali 5), foliis caulinis brevioribus apice non acutis basi obtusis; umbellaribus longioribus (i.e. caulinis et umbellaribus fere conformibus), lobis involucri ovatis et capsula dorso tuberculis minutis, dense exasperata dignoscitur: etiam ad *E. lunulata*m propinquare videtur, sed quacum aspectu excepto capsula sic tuberculata minime confundi potest.

In specimine unico (vide Fig. 8. a sinistra) caulis tantus 10 cm. altus (panta sub anthesi). Hoc simul characteribus partium involucri paulum discrepat, sed utrum planta depauperata an forma propria esset, adhuc incertum.

Distr. species. Europa (e Germania et Pannonia ad Rossiam australem), Asia media, Persia borealis, Turkestan, Sibiria ex uralensi ad altaicam et Songariam.

Hitherto for the name of the Eastern Asiatic plant, Hagikusō, is used the binominal, *Euphorbia Esula* Linn. I have scrutinized it as follows:

*Euphorbia Esula* LINN., Sp. Pl. ed. 1. I, 461. (1753), [fortasse hic plantas diversas an species distinctas includit: de plantis Germanicis, Belgicis et Gallicis descripta]; ed. 2. I, 660. (1762); Syst. Nat. ed. 10. II, 1050. (1759); ed. 13. II-1, 766. (1771); POLLICH, Fl. Palest. II, 18. n. 460. (1777); ROTH, Fl. Germ. I, 206. no. 13. (1788); WILLDENOW, Sp. Pl. II-2, 919. n. 111. (1799) de plantis Germanicis, Belgicis, Gallicis, Helveticis et Carniolicis descripta.; HOFFMANN, Deutschl. Fl. I, 219. no. 13. (1800); ROEPER, Enum.

Euphorb. Germ. et Pannon. 64. (1824); SPRENGEL, Syst. Veg. III, 801. (1826); REICHENB., Icon. Fl. Germ. vol. V-8, fig. 4791. (1841); LEDEBOUR, Fl. Ross. III, fasc. X, 575. n. 55. (1850)<sup>1)</sup>; TURCZANINOW in Bull. Soc. Imp. Nat. Moscou XXVII-2, 359. (1854); RUPRECHT in MAXIM., Prim. Fl. Amur. 238. n. 1. (1859)<sup>2)</sup>; *Euphorbia* n. sp.? sic RUPR. l. c. 239. n. 2<sup>3)</sup>; REGEL in Mém. Acad. Imp. Sci. St. Petersb. VII. sér. IV, no. 4, 128. n. 427. (Tent. Fl. Ussur.) (1861); BOISSIER in DC. Prodr. XV-2, 160. (1862) cum plur. var.; Fl. Orient. IV, 1125. (1879)<sup>4)</sup>; GRAY, Manual Bot. N. U. S. ed. 5. 435. (1867); ed. 6. 456. (1889) de plantis Americanis septentrionalibus uti introductis.; F. SCHMIDT, Fl. Amg.-Burej. in Mém. l'Acad. Imp. Sci. St. Péterb. VII. sér. XII, no. 2, 60. n. 322. (Reisen Amur. u. Ins. Eachal.) (1868); MAXIM. in Mém. Biol. XI, 839. (1883)<sup>5)</sup>; BENTHAM, Brit. Fl. 395. (1887) de plantis in Anglica introductis.; KORSCHINSKY in Act. Hort. Petrop. XII, 386. (1892)

1) Epitoma: radice repente, umbella multifida etc., foliis oblongis vel oblongo-linearibus basin versus attenuatis versus apicem margine tenuissime serrulatis etc. Capsulae coccis dorso subtiliter punctulato-scabris etc. De plantis in Rossia media et australi, Sibiria uralensi, altaica, baicalensi ad fluv. Aldan et Dahurica.

2) Epitoma sequens: 1.) cum *E. Esula* (*obtusifolia*—determ. a ROEPER) convenit. (plantà in Kitsi): 2.) foliis adhuc latioribus. (pl. inter Borbi et Dshai): 3.) varietas foliis apice obtusis mucronatis, umbella 5-radiata. (pl. inter orem fluv. Onou et Albasin): 4.) varietas caulibus floriferis dense aggregatis, foliis brevibus et angustioribus (8-lin. long. 1-lin. lat.), haec forma accedit ad *E. Cyparissias* TURCZ., Fl. Baie. Dah. n. 1008., sed folia basi evidenter attenuata etc. (pl. in occidentali infra orem fluv. Gorbitra).

3) Haec incertum est an eius forma.

4) De plantis in Caucaso et Persia descripta, et hic per Boissier, praeter Europeam et Sibiriam, "China borealis" in distr. sp. addita est.

5) De plantis in Manshuria, Dahuria, Sibiria orientali (fl. Lenae ad Bulun et ad Wilui), baicalensi (circa lacum Baicalem) et secus ad Jenisiam. Per MAXIMOWICZ "Bonin-sima, Peel-island" (ex OLDHAM) scripta est, sed nobis haec planta inde adhuc deest. Praeterea Corea orientali, Manshuria, Sibiria orientali. (var. *latifolia* LEDEB.): China boreali et australiori ad Canton (ex HANCE), Mongolia orientali, Dahuria usque versus Rossiam australem. (var. *cyparissoides* BOISS.) Epit. ex descrip.: "*E. Esula* in Manshuria austr., archipel. Coreano et ins. Bonin a forma vulgari recedit foliis obtusis vel emarginatis, quibus accedit interdum. Habitus diversus ob ramos numerosos elongatos stenophyllos etc." Postremo MAXIMOWICZ plantam Japonicam ex fig. (*Hagikusoo*, Soo bokf.—Somoku-Dzusetu—IX, 15.) et fragmentum speciminis ex Japonia ad *E. Esulam* duxit.



cum var. *genuina* BOISS.; Tent. Fl. Ross. Orient. 376. (in Mém. l'Acad. Imp. Sci. St. Petersb. VIII, vol. VII, no. 1.) (1898); M. WILLKOMM, Fl. Hispan. 262. (1893) var. *γ. acutiloba* LANGE sic.; FORBES et HEMSLEY in Journ. Linn. Soc. XXVI, 412. (Fl. Sin.) (1894); BRITTON et BROWN, Illustr. Fl. N. U. S. & Canada ed. 1. II, 380. (1897) cum fig. 2335. "a Europea in Americam septentr. introducta" dicitur.; MAKINO in Bot. Mag. Tokyo XII, 339. (1898) de plantis Hondoensibus.; NORTON, Revisio *Euphorb.* sect. *Tithymali* N. Mexico 25. et pl. 5L. (1899)<sup>1)</sup>; DIELS, Fl. Centr. Chin. in Engler, Bot. Jahrb. XXIX, 430. (1901); BRITTON, Manual Fl. N. U. S. & Canada 595. (1901); KOMAROV in Act. Hort. Petrop. XXII, 689. (Fl. Marish. II.) (1903); HAYATA in Journ. Coll. Sci. Tokyo XX-3, 72. (1904) de planta in Honsyu, prov. Mikawa.; MAKINO in Iinuma, Somoku-Dusetu rev. ed. II, 700. pl. 655. (1919); NAKAI in Journ. Coll. Sci. Tokyo XXXI, 186. (Fl. Corea. II.) (1911) cum var. *latifolia* LEDEB.; MATSUMURA, Ind. Pl. Jap. II-2, 302. (1912); KOMAROV et KLOBUKOVA-ALISOVA, Key far east. reg. Ussur. II, 711, (1932)<sup>2)</sup>; WHEELER in Contr. Gray Herb. Harvard Univ. CXXVII, 66. (1939).<sup>3)</sup>

*Euphorbia inermis foliis lanceolato-linearibus* etc. LINN. Hort. Ups. 141. (1748).

*Esula minor* DALECHAMPS, Hist. 1653. (1586) cum fig.

*Tithymalus foliis pini* etc. BAUHIN, Pin. 292. (1623).

*Tithymalus foliis linearibus, petalis emarginatis.* HALLER, Hist. Stirp. Helv. ed. 2. II, 8. n. 1046. (1768).

1) Ex pl. l. c.: foliis caulium fertilium etiam umbellaribus lineari-lanceolatis unam formam *E. virgatae* Waldst. et Kit. refert. (vide postea) Characteribus praeterea, umbella multiradiata, cornibus glandulae acutiuseculis paulum a planta nostra discrepare videtur.

2) In the key described "none of the sterile branchlet," and by this character separated from *E. Cyparissias* (probably *E. Kaleniczenkii*—see above!) with "the sterile branchlets, which are densely leafy," and "the axillary branches." (original in Russian).

3) Epit.: by C. V. MORTON formerly concluded that "no specimens of undoubted *E. Esula* seen from the U. S." and that "the plants in question were *E. virgata*." But WHEELER moreover states that he has been "unable to distinguish the plants in the U. S. from the European materials of *E. Esula*." He has concluded that "the Leafy Spurge of the U. S. is *E. Esula*."

*Tithymalus Esula* (HILL) SCOPOLI, Fl. Carniol. ed. 2. I, 338. 1772).

*Tithymalus linifolius* LAMARCK, Fl. Franc. III, 95. (1778).

*Esula Dalechampii* HAWORTH, Synop. Pl. Succul. 155. (1812).

*Euphorbia pinifolia* DC., Fl. Franc. VI, 36. (1815) pro syn. sub *E. Esula* var. *pinifolia* apud BOISSIER in DC. Prodr. l. c.

*Euphorbia salicifolia* (non LINN.) DC. l. c. 362. (1815).

*Euphorbia angustifolia* SWEET, Hort. Brit. 357. (1827); ed. 2. 455. (1830).

*Keraselma Esula* RAFINESQUE, Fl. Tellur. IV, 116. (1838) (fide Ind. Kew.)

*Euphorbia caesia* KAREL. et KIRIL., Enum. Pl. Altai. no. 808. (1840); LEDEB., Fl. Ross. III, fasc. X, 576. (1850) (Nec *E. Esula* var. *c. caesia* C. A. MEYER in LEDEB., Fl. Altai. IV, 180.), haec est sub syn. *E. Esula* var. *cyparissioides* apud BOISSIER in DC. l. c.

*Euphorbia eriophylla* KAREL. et KIRIL. l. c. no. 809. sub syn. *E. caesia* KAREL. et KIRIL. apud LEDEB. l. c. (1850).

*Euphorbia discolor* LEDEB., Fl. Ross. l. c. 577. (1850)<sup>1)</sup>.

*Euphorbia intermedia* BREBISSEON, Fl. Normand. ed. 3. 271. (1859) (fide Boissier l. c.).

*Euphorbion Esulum* ST. LAM. in Ann. Soc. Lyon VI, 125. (1880).

*Euphorbia Maackii* MEINSH. in BAER. et HELM., Beitr. z. Kenntn. d. russ. Reichs XXVI, 204. (fide MAXIM. in Mém. Biol. l. c.)<sup>2)</sup>

*Galarhoeus Esula* RYDBERG, Brittonia I, 92. (1931) de plantis in America septentrionali. (fide Wheeler l. c. 67.); Fl. Centr. N. Amer. 519. (1932).

*Glarhoeus Esula* HARA in Journ. Jap. Bot. XI-5, 384. (1935) de plantis Asiae orientalis descripta.

I have compared the specimens of *Euphorbia Esula* in Europe (Scandinavia, France etc.) with those of Far Eastern Asia (Manshuri, Corea and Honsyu) which have been commonly known as *Euphorbia Esula*. Concerning to the knowledge on the specimens and papers so far, I am convinced that the Eastern

<sup>1)</sup> Umbella multifida, foliis caulinis sessilibus obovato-cuneatis versus apicem denticulatis caetera integerrimis discoloribus subtus glaucis, infimis minimis intermediis obtusis, summis acutis vel mucronatis etc.

<sup>2)</sup> "Forma gracilior in Rossia borealiori, foliis floralibus hic inde nec semper obscure subsinuatis."

Asiatic plants belong to quite distinct species from the Linnean or *Euphorbia Esula* in Europe.

I propose to regard it as a new species *Euphorbia Nakaii* with the type specimen from Quelpaert.

12) ***Euphorbia Nakaii*** m. sp. nov.

*E. Esula* (non LINN.) sensu plur. auct. Jap.

*Euphorbia Esula* var. *latifolia*, originem ducet ab *E. Esula*  $\beta$ . *latifolia* LEDEBOUR, Fl. Ross. III, fasc. X, 575. (1850) de plantis in Sibiria altaica et orientali descripta. In loco citato a Ledebour "forsan speciem propriam constituit." dicitur.; RUPRECHT in MAXIM., Prim. Fl. Amur. 238. sub n. 1. et

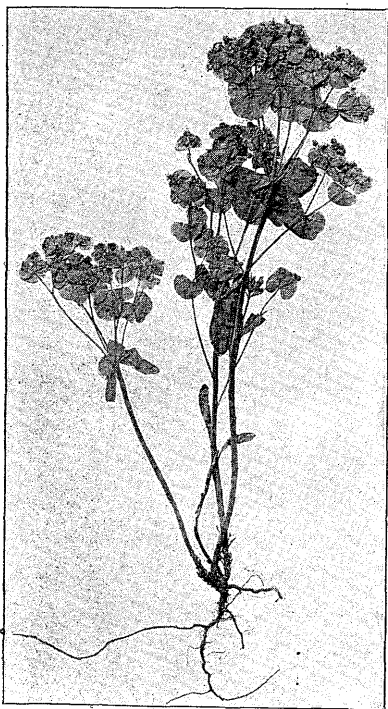


Fig. 9. *E. Nakaii* HURUSAWA. Caules sub anthesi et fructiferi. Specim. ex Shikô, ins. Quelpaert, Corea. ( $\times 1/3$ )

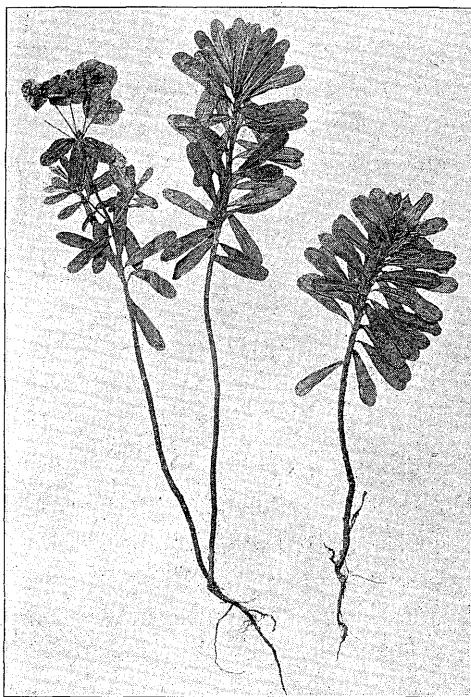


Fig. 10. *E. Nakaii* HURUSAWA. Caules post anthesin et steriles. Specim. ex Hôkanri, ins. Quelpaert, corëa. ( $\times 1/3$ )

239. n. 2. "*Euphorbia* n. sp. ?" fortasse pro parte. (1859); BOISSIER in DC. l. c. 161. (1862); MAXIM. in Mél. Biol. l. c. 840. (1883)<sup>2)</sup>; PALIBIN in Act. Hort. Petrop. XVIII, no. 2. 41. (Consp. Fl. Korea.) (1900); KOMAROV in Act. Hort. Petrop. l. c. (1903); NAKAI in Journ. Coll. Sci. Tokyo l. c. (1911).

*Galarhoeus Esula* (non RYDBERG) HARA in Journ. Jap. Bot. l. c. (1935).

*Galarhoeus Esula* RYDBERG ap. HONDA, Nomina Pl. Jap. 192. (1939).

*Galarhoeus Nakaii* m. nom. alternat. mss.

Radix gracilis vulgo fibrosa simplex vel subverticali vix ramosa, fere erizomata vel gracillime rhizomata saltem biennis (an perennis), caulibus glabris 1-2 vel 3 consociato diffusis, erectis 20-25 cm. altis vel altioribus, strigosis in exsiccato 1.5-2.5 mm. diametro, inferne squamis minoribus dense tectis sursum sparsius foliatis saepe cicatricosis, simplicibus vel ramulosis, ramulis floriferis et sterilibus, si sterilibus dense foliatis, eius foliis minoribus vel majoribus semper quam caulina angustioribus et interdum elongatis internodiis abbreviatis subimbricatis. Umbella saepissime 5-6-radiata raro pluri-radiata. Folia caulium fertilium spathulato- vel oblongo-lanceolata apice obtusa interdum subacuminata obtusiuscula vel rarius paulum retusa minime mucronata, post anthesin cito delapsa; umbellaria saepissime 5, breviora et latiora ovato-elliptica obtusissima vel leviter acuminato-obtusa; floralia primaria rhombeo-ovata obtusa basi subcuneata, secundaria minora subreniformia apice rotundata interdum retusa mutica vel mucronulata basi plus minus cordata, tertia, si adsunt, minima nunc fere exacte orbicularia nunc transversali elliptica. Folia omnia integra utrinque glaberrima subtus praesertim in novella glaucescentia, adulta firmula nec coriacea.

Involuera hemisphaerica sessilis vel brevissime pedicellata, extus glabra, glandulis 4 exteriore truncatis bicorniculatis, cornibus obtusis brevissimis, intus sub glandulis sparse pilosa vel glaberrima (ex speciminibus Japonensibus in Tokyo cultis), lobis quinque breviter ovatis vel oblongis apice subretusis vel obtusissimis margine dense fimbriatis, bracteolis inter flores masculinos multifidis eius lobulis versus apicem piliferis filiformibus (ex speciminibus supra citatis lobulis glaberrimis).

Capsula evidenter 3-sulcata, coccis dorso obtuse carinatis sub lente (im-

2) Excl. var. cyparissoides.

maturis) tuberculosis dein (perfecte maturis) tantum scabrido-rugulosus. Styli 3 ad medium coaliti apice  $1/3$  bifidi subincrasso stigmatosi. Semina ovoidea pallidi-chracea, laevissima, carunculis subpedicellatis sub lente albobispidulis.

Nom. Jap. *Saisyutō-hagikusō*.

Hab. in Corea, ins. Quelpaert, Sikō. (T. NAKAI, Mai. 28. 1913. Typus!): ibidem Hōkwanri. (T. NAKAI, 20. 1913.); prov. Kei-hoku, Tatuzyō-gun, Kaiganmen. (T. NAKAI, no. 8037. Jul. 8. 1919.): Hoc specimen caulem gracillimum etsi firmum 20 cm. altum, radicem (an rhizoma) simplicem verticalem filiformem, folia caulina vera tota delapsa (post anthesin) portat. Ex axillis foliorum floralium ramulos steriles emittent, cuius apicem versus folia minora angustissima sunt congesta.

form. **littoralis** m.

Caulis crassior (ex exsiccato 4 mm. diametro) e basi sursum ad infra ramulos superiores post anthesin foliis tota delapsis dense cicatricosus, ramulis apice floriferis praeter folia floralia dense offliatis, foliis in ramis sterilibus dein crebre convalescentibus.

Hab. in Corea, Quelpaert, sine designatione loci specialis, littore. (TAMEZO MORI, no. 157. Aug. 1912.), planta fructifera unicaulis, caule robustiore nec vetusto verum annotino, namque radice tantum fibrosa erhizomata in hoc specimine.: Praeterea specimina sterilia, quae caulem dense foliosum habent et certum ad hanc formam referenda sunt, observavi.

form. **caespitosa** m.

Planta humilior, 10–15 cm. alta, pluricaulis caespitosa, radice in ramulos nonnullos fibrosos divisa interdum in rhizomata gracillima variante, saltem bienne. Caules 2–3 mm. diametro crassi graciliores, sparsissime foliati, foliis caulinis minimis obovatis vel brevissime ovatis interdum obovato-spathulatis apicem versus dilatatis saepe truncatis raro simul retusis, 1–2.5 cm. longis, 4–7 mm. latis, molliter membranaceis.

Hab. in Corea, ins. Quelpaert, Ryu-tan-ri. (T. NAKAI, no. 176. Mai. 14. 1913.): ibidem. (T. NAKAI, no. 6266. Oct. 29. 1917.)

Formae supra scriptae praeter habitum, radicem et ingenium foliorum, partibus floralibus ad species genuinam exacte referunt: hand species dis-

finctas sistunt. Folia in f. caespitosa breviora latiora quidem, sed in ramulis sterilibus post anthesin angustiora evadent.

Sed differentia habitus videtur non eadem inter plantam juvenilem et vetustam esse. Versimiliter formam propriam constituta.

Nomen subtus citatum probabiliter huius (f. *caespitosae*).

Synonymum esset.

*Euphorbia octoradiata* LÉVEILLÉ et VANIOT in Fedde, Repert. Nov. Sp. V, 281. (1908): epitama ex diagn. "...multicaulis, nec raro biumbellata etc. Caules foliis caducis nudi: folia parva obovata obtusa, etc. Capsulae leves etc."

De plantis in ins. Quel-paert descripta. Haec dubium est an una forma peculiaris: planta his disserta principali umbella 5-radiatam possidet cum rara variatione, ut in speciebus ceteris observari potest.

Distr. species. Manshuria maxime australis (cetera adhuc dubia), Corea borealis usque ad australem et Honsyū media (quoad Honsyū specim. spontaneum certum mihi adhuc deest.)

Differentiae praecipuae inter *Euphorbiam Esulam* in Europa et *Euphorbiam Nakaii* mihi.

: rhizomate repente stolonifero, umbella potius multifida (numero radiorum variabili 8-12 vel magis), cornibus glandulae etsi leviter acutiuseculis, (ex plantis

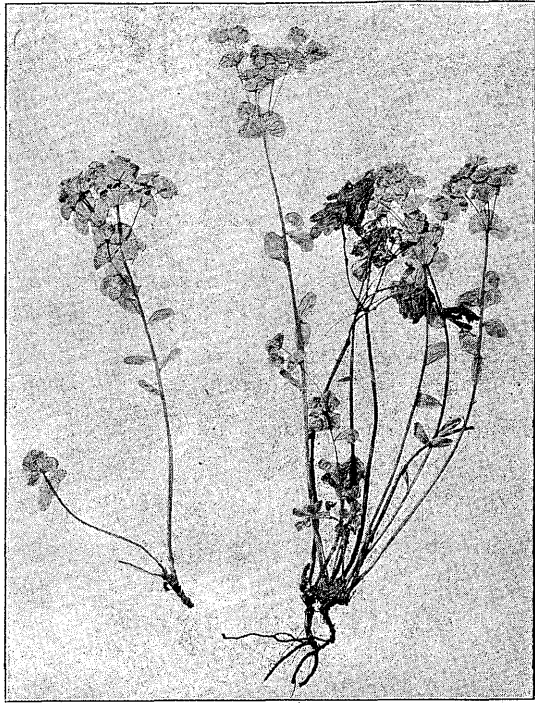


Fig. 11. *E. Nakaii* HURUSAWA f. *caespitosa* HURUSAWA. Specim. ex Ryu-tan-ri, ins. Quel-paert, Corea. ( $\times 1/3$ )

Scandinavicis) foliis plus minus versus apicem acuminatis acutis. (vidi siccum, et in WILLKOM, Fl. Hisp. l. c. *E. Esula* var. *acutiloba* LANGE, scripta.) Ex plantis in Europa australi et australi-orientali, foliis caulinis veris (nec caulium sterilium) obtusis sed lanceolatis saepe angustioribus longioribus. *E. Esula* LINN.

: radix simplicior fibrosa rhizomatibus gracillimis vel abbreviatis saepe fere erhizomata umbella saepissime 5-radiata (etsi eius numero rarius amplius), cornibus glandulae involucri brevissimis obtusissimis, propterea glandulis desuper visis quasi integris transverse oblongis. Folia caulina genuina (foliis caulium sterilium exceptis) breviora latiora oblonga vel ovata apice vulgo obtusa integra.

*E. Nakaii* n.

[Addend.] Utrum plantae asiaticae et americanae ante sub nomine *E. Esula* dispositae certe identicae an distinctae sunt mihi in dubio est.

13) ***Euphorbia tarokoensis*** HAYATA, Icon. Pl. Formos. VII, 34. (1917).

*Galarhoeus tarokoensis* HARA in Journ. Jap. Bot. XIV, 356. (1938).

Hab. in Formosa, intra Batakan et Uti-taroko.

Haec planta quoad descriptionem *E. Sampsoni* HANCE in Ann. Sci. Nat. 5-me. sér. V, 240. exacte convenit, specimina typi *E. Sampsoni* autem nondum vidi hinc nomen speciale *E. tarokoensis* reservatur.